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ABSTRACT

This document is designed as a workbook for those planning to conduct labor market surveys. The data gathering procedures were specifically designed for a small rural college with limited financial and manpower resources. The purposes of such a survey are to identify manpower needs, to make the college known as a source of trained manpower, and to acquaint vocational instructors with local employers and jobs performed. A step-by-step description of the process of conducting a labor market survey is provided, as is a glossary of terms, a list of groups to be contacted, a list of materials to be developed, sample data collection forms, a list of computer table headings and column designations, a detailed description of the computerized Dictionary of Occupational Titles (DOT) system and its use, a list of two-digit industrial codes, and a bibliography. Brief descriptions of the method used to conduct a survey at Columbia Junior College (California) and the results obtained are also included. (DC)

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LABOR MARKET IDENTIFICATION MODEL

Procedure in Labor Market Planning for
Vocational Education Programs of Columbia
Junior College October 1974

A. General Approach

This publication presents an approach designed for institutions in rural, isolated, sparsely populated areas by which they can gather labor market information upon which program decisions can be made. Attention has been given to developing data gathering procedures which can be undertaken by a small institution with limited financial and manpower resources and the identification of state and federal statistical publications which provide common data available for a defined geographical area.

B. Objectives of the Labor Market Survey

B.1. To identify the nature of the jobs performed in the selected survey area in order that:

B.1.1. Students can receive accurate information relating to possible careers.

B.1.2. Instructional development can parallel available job needs.

B.1.3. Implications for future program development can be identified.

B.1.4. To identify potential cooperative education stations.

B.2. To make known the college as a source of trained manpower so that

B.2.1. Students can be placed in field of training.

B.2.2. The college can assist in the development of the local economy.

B.3. To acquaint vocational instructors with local employers and jobs performed in order that

B.3.1. Classroom instruction accurately portrays work situations found in the local environment.

Data Forms

See Attachments

B.3.2. Contacts with local employers can be established.

B.3.3. Potential sources of advisory assistance can be identified.

C. Description of the Surveyed Area

C.1. Limited number of large companies which can absorb students into their work force with a coupled educational program.

There are a limited number of large companies or corporations which can absorb students into their work force with a coupled educational program. Where colleges in metropolitan communities can concentrate their efforts with a few large employers, colleges in sparsely populated areas must scatter these arrangements through many more agencies and organizations because of the limitation of scope available and often must communicate with decision levels of the participating agencies which are located outside the hiring area.

C.2. The local economy is primarily made up of small businessmen, the nature of whose businesses do not allow for an expansion of their work force beyond the current level.

C.3. The primary source of employment is through government related work for which there is no single employer but a variety of employment programs for which recruiting is done outside the community.

C.4. Much of the work available is of a seasonal and/or part-time nature.

C.5. Economic conditions are generally depressed by virtue of a high rate of unemployment among the general population which forces young people to either join the large pool of unskilled labor or leave the community if they are to secure entry level jobs.

C.6. Because the College is new and the first and only source of trained workers to the community, local businesses have yet to consider it as a place for recruitment.

In addition to these broader problems, prior to the development of Columbia Junior College six years ago, the only access to vocational training programs at the post secondary levels was to attend colleges outside the county at some distance away. Because the college is a new entity, it has not been considered as a source of trained manpower. This required modification of previous recruitment methods for trained personnel so that existing job opportunities can be captured for students enrolled in the vocational programs of the college.

D. Description of the Survey

D.1. Nature of the survey

The survey was aimed at determining the number of employees, the nature of their work, the career possibilities and the requirements for each job.

The size of each business is defined only according to the number of employees. Questions are asked about the nature of each job slot in terms of how many performed the same job, the work schedule of each employee in the job slot, whether the job was entry and/or career level, and the promotional possibilities. Further questions include educational and experience requirements, licensure, physical condition, age and sex requirements and possibilities for handicapped workers in the job. A final question determined from where employers currently recruited employees.

Each set of questions is designed to describe each job performed; therefore, more than 2 employees could be accounted for on each survey sheet.

D.2. Rational for Scope of Survey

The counties served by the college are not a part of a larger labor market reporting area or Standard Metropolitan Statistical Area and therefore, limited information concerning the area as a whole is regularly reported. Because detailed information for specific employers is not available to the college from the Employment Development Department, a comparable data base for all counties served is required. Such a data base requires that all businesses are surveyed.

D.1. Glossary of Terms

E. Sources of Related Data

E.1. Basic list of businesses to be surveyed

E.1.1. Promotional organizations maintain a list of potential members and thus provide a source of business to contact. This list must be supplemented as the survey proceeds as it is not complete.

E.1.2. Consultation of telephone book

The yellow pages provide a listing of businesses having telephone numbers.

E.1.3. Equalization Board of State of California

New businesses coming into the county must file for a license to sell through the State Board of Equalization.

E.1.4. Publication of businesses doing business under a name other than the owner

Notices of intent are filed with the County Clerk and published in the local newspaper.

E.2. Employment Development Statistics (local)

Occasional studies are done by staff from the Employment Development Department for local offices. Statistics are gathered which can be used. Reports of this type are usually undertaken for special local reasons and therefore do not provide a standard reporting format for all labor market areas.

E.3. Employment Development Statistics (state-wide)

The Employment Development Department maintains a Research and Analysis Office in San Francisco. This office provides local and standardized data forms upon request. This office also provides information based on the 1970 Census.

E.4. 1970 Census Data

Characteristics of the Labor Force can be secured for each County from various publications detailing Census information.

E.4.1. List of useful Census Data

E.5. Surveyors Knowledge of the Community

The personal knowledge of the survey team members also prove helpful. Occasionally business owners were reluctant to give information, and knowledge of local situation helps fill in blank spots or enables surveyors to find the needed information elsewhere.

F. Uses of the Data

F.1. Curriculum development

F.1.1. Implications for existing program

The relationship of current and projected manpower needs can be established and needed modifications, deletions and expansions can be identified and developed within the college.

The relationship of college program with program of other training agencies can be identified and articulation between institutions and programs strengthened to assure that duplications nor gaps exist.

Educational procedures, facilities, and equipment can more closely reflect actual practice.

F.1.2 Implications for new program development

Long-range planning for needed program additions can be undertaken to include staff, facilities, program, financial resources, and community agreements. The relationship of this program to overall college needs can be assessed.

The relationship of anticipated college program with future program plans of other local and regional training agencies can be identified to

assure that duplications of expensive programs do not occur and gaps do not exist.

F.2. Manpower Planning Agencies

F.2.1. City, County and State government request that the information be made available to them for their own studies. As manpower planning becomes an ever increasing necessity for these entities, data concerning needs and programs must be considered in the overall allocation of manpower revenue-sharing funds.

F.2.2. Economic planning agencies also require information concerning the actual labor market as it relates to the economy as a whole.

F.3. Identification of potential cooperative work experience stations and career placements for trained personnel

One of the drawbacks in most vocational programs is that instructors lack time to become familiar with the businesses in the community for which they are training students. They may not understand the internal working of many of the businesses, personally know the owners, managers, or workers, or, perhaps, requirements of many jobs within a business. A Labor Market Survey conducted by these teachers will help them overcome many of these deficiencies. When the instructors talk to employers at their places of business about their employees and how the businesses operate, a mutual understanding can be generated which will help both teacher and employer. This personal communication is essential to the teacher if he is to place his students into jobs, know what each job requires, how the business operates, and who to contact when a student is ready for employment.

Identification of business which can provide training experiences not available at the college is possible by personal contact and knowledge of potential training facilities. Cooperative agreements can then be developed.

F.2. List of concerned groups in community

F.4. As a counseling tool

F.4.1. The sharing of program information between instructional and counseling staffs is imperative if students are to be attracted to and enrolled in programs with potential for career placement. This sharing process must occur within the institution and between institutions and agencies concerned with the training and placement process.

F.4.2. Career information for students is an approach of local labor market information. This includes characteristics of the job as well as potential for placement.

F.4.3. Career placement procedures can be strengthened through an organized approach to the labor market.

F.5. Professional development of vocational staff

F.5.1. Strengthening skills in manpower needs assessments and job analysis for vocational staff results from on-site visitation and analysis of the data.

F.5.2. Strengthening skills in program development and instructional design through first-hand knowledge of work situation and employer needs.

F.5.3. Maintaining knowledge of current practices in local and expanded labor markets so training does not become obsolete.

F.6. Public Information

F.6.1. Mass media

Building an awareness of the public as a whole and students' parents in particular.

F.6.2. Civic groups including promotional organization

Building an awareness of the public as a whole through program presentation and speaker services.

F.4.1. List of groups to be reached

F.4.2. Types of Career Materials to be developed

G. Methodology

G.1. Step	G.2. Procedure	G.3. Staff Responsibility	G.4. Data Form
G.1.1. Identification of employers to be surveyed.	G.2.1. List prepared from a. promotional occupation b. telephone book c. State Board of Equilization d. newspaper	G.3.1. Prepared by Project Coordinator	
G.1.2. Train staff in use of data collection instrument.	G.2.2. Staff training should include how to approach employers, what kinds of questions to ask, and when was the best time to visit. It is important that the coordinator make sure that each surveyor understand the necessity for accuracy and the requirements data processing has for transfering information from the sheets to punch cards.	G.3.2. Project Coordinator	G.4.1. Data Collection Instruments.
G.1.3. Arrange for labor market survey a. assignment of business to be surveyed	The total staff should decide how the business community will be divided. Obviously, each vocational instructor will work in his respective field, but many areas do not fall under clearly defined categories. Staff should make decisions on where they are to go early in the survey because they can help one another, particularly when a few businesses may be a far distance. During the first part of the survey, each team member went out on his or her own. Later, they went out together and saturated one particular area. This conserved work time and money, particularly in small, outlying areas.	Project Coordinator and participating staff	

b. travel arrangements	Use college transportation or individual car with reimbursement for mileage and meals.	Coordinated through regular college transportation procedure	
c. scheduling of visits and compensation for time involved	The faculty involvement in the project required that each surveyor arrange his schedule for pay and time in the field as best suited his situation. Alternatives utilized included a. reassigned time--substitutes were hired to cover assigned classroom duties while instructor was in field b. reassigned time--field time was assigned as part of full time load c. instructors were paid on an hourly overload basis in excess of their full time load d. a contract rate was established to carry out a given amount of work	Project Coordinator and faculty member working with Dean of Instruction and Associate Dean for Occupational Education.	
d. Printing of business cards	Each surveyor is provided with an identification card when he approaches an employer. A standard business card is most appropriate and easy to handle. Many employers are ill at ease when approached because they feel some of the questions are personal. A short discussion of the reason for the survey coupled with some proof as to who surveyors represent, eased tension.	Project Coordinator and Instructional Materials Center	G.4.2. Business Card

G.1.4. Develop data processing plan	Because of the quantity of information, a consistant schedule for forwarding the survey sheets for key punching must be met. Frequent communications with the key punch operator and programmer is necessary to assure both data processing and survey needs are met. The program is designed so that data can be arranged by: a. job title and DOT code b. employer c. classification Hand sorting to arrange information by curricular area is also used.	Project Coordinator and data processing staff	G.4.3. List of Computer Table Heading
G.1.5. Complete survey sheets	According to staff training directions.	Surveyor	
G.1.6. Review data sheets for coding and accuracy	Two codes must be assigned to each job title: a. DOT code (Dictionary of Occupational Titles) b. Standard Industrial Classification Code Because there are so many sheets to be coded and verified it is necessary that each surveyor turn in the sheets as they are accumulated. In order to maintain uniformity in coding one person should code and verify the sheets and perform other clerical duties. One word of warning, this coding is much more difficult than at first apparent, and someone with exceptional ability and eye for detail is necessary for the task.	Project Clerk	G.4.4. Explanation of DOT and Standard Industrial Classification Code

	Using instructors to do this task is impractical for several reasons; (1) the instructors do not have the time, (2) one person would become much more proficient at coding and consistency could be maintained, and (3) it is far too expensive to have certificated staff perform this kind of time-consuming clerical function.		
G.1.7. Keypunching and program printouts	As noted above, data was summarized by four classifications: a. by Job title and DOT Code b. by Standard Industrial Classification--industrial type c. by employer d. by curricular area Within any of these categories, the following sorts were possible: a. by DOT number and title b. by locale c. by employer type d. by career level e. by eligibility f. for special target groups 1. women 2. aged 3. mentally and physically handicapped g. work calendar h. length of work day	Data Processing Services	
G.1.8. Gather standard statistical data for inclusion in report	Secure documents to use in manpower projections and organize for report narrative.	Project Coordinator	G.4.5. List of useful data available for all counties.
G.1.9. Train staff in techniques for analysis of labor market data	A workshop session for all instructors involved in developing implications is required at which time the consultant in Analysis of Labor Market Survey will work with the staff on skills necessary to derive meaning from Labor Market Surveys. After a general session relating basic analysis data to the participants as a group, the consultant	Project Coordinator Survey Staff Consultants	G.4.6. Useful manpower projection data.

		works with each participant individually to assess the data pertaining to each vocational program. This individual activity will be of a clinic nature to assist participants to overcome problems encountered and improve the quality of the work done.		G.4.7. Work sheets utilized in developing implications.
		Each instructor will prepare a summary of implications for their vocational area.		
G.1.10.	Integration of program implications into the labor market description	The Project Coordinator will need to compile and edit data prepared by instructional staff and integrate community characteristics and manpower projection information into the detailed review of data.	Project Coordinator Project Coordinator Project Clerk Instructional Material Center	
G.1.11.	Completion and printing of report	See Section F, Uses of Data	Associate Dean of Occupational Education, Vocational Faculty, College Administration	
G.1.12.	Identification of target groups for dissemination of information	See Section F.	Associate Dean of Occupational Education, Associate Dean for Community Services, Public Information, Instructional Material Center	
G.1.13.	Design and development of dissemination format			
G.1.14.	Updating survey	Several techniques have been utilized to update survey information. a. Use of employer roster as mailing lists.	Career Placement Assistant	

Throughout the year, programs have been developed to meet the special needs of employers resulting from the survey. Address labels are printed by the computer from the bank generated from the survey instrument. These are used for program announcements. Return receipts are requested for all mail that cannot be delivered. Employer address cards are then pulled from the working file.

b. Review of legal notices in newspapers.
All businesses whose name is not the actual name of the employer must file a legal notice indicating also known as. The daily review of these legal notices allows for the addition of new businesses to the file.

c. Review of classified ads.
Daily review of job openings will also reveal new employers entering the community.

d. Occasional check with Board of Equilization.
All individuals wishing to do business in a community must file with the Board of Equilization.

D.1. Glossary of Terms

1. Labor Market - All jobs performed within a given geographical area.

2. Types of Labor Market reporting areas

   a. Census tract

      Census tracts are small areas into which large cities and adjacent areas have been divided for statistical purposes. Tract boundaries were established cooperatively by a local committee and the Bureau of the Census. Tracts were generally designed to be relatively uniform with respect to population characteristics, economic status, and living conditions. The average tract has about 4,000 residents. Tract boundaries are established with the intention of being maintained over a long time so that comparisons may be made from census to census.

   b. By County

   c. By Standard Metropolitan Statistical Area (SMSA)

      A Standard Metropolitan Statistical Area is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In addition to the county or counties containing such a city or cities, contiguous counties are included in an SMSA if, according to certain criteria, they are socially and economically integrated with the central city.

3. Job Slot - For the purposes of this survey a job slot was considered to be a given job title x the number of workers assigned to that position on either a full-time, part-time, year-round and/or seasonal basis.

4. DOT Code - Dictionary of Occupational Titles Code - See G.4.4.

5. SIC - Standard Industrial Classification Code - See G.4.5.

E.4.1. List of Useful Census Data by County

Page 1 - General Characteristics of the Population: 1970

Page 2 - Social Characteristics of the Population: 1970

Page 3 - Labor Force Characteristics of the Population: 1970

Page 4 - Income Characteristics of the Population: 1970

If working on ethnic characteristics, see also

Page 5 - General and Social Characteristics of the Negro Population

Page 6 - Economic Characteristics of Negro Population

Page 7 - General and Social Characteristics of Persons of Spanish Language or Spanish Surname

Page 8 - Economic Characteristics of Persons of Spanish Language or Spanish Surname: 1970

F.2. List of Concerned Community Groups

Local Office of Employment Development Department
County Schools office staff
ROP-ROC program staff
Secondary Schools staff
County Board of Supervisors - Manpower Planning Council
County Planning staff
City Planning staff
Promotional organizations to include Chambers of Commerce
Economic Development Planning Council
District Occupational Advisory Committee
Regional Occupational Advisory Committee

F.4.1. List of Groups to be Contacted

Manpower Planners - Manpower Planning Council of Board of Supervisors
Overall Economic Development Planning
Employment Development Department

Counselors - Secondary Schools
Colleges
ROP-ROC
Welfare and Employment Development Department

Program Administrators - Secondary Schools
Colleges
County Schools

Vocational Instructors - Secondary Schools
Colleges

Career Information Personnel - Elementary
Secondary
College
ROP-ROC

Employment Officers - Employment Development Department
Job Placement at Secondary and College Levels
Private Employment Agencies

Students

Parents

Governing Boards - responsible for program decision-making

Advisory Committee Members

F.4.2. Career Materials to be Developed

1. Labor Market Report

2. Audio-visual overview of the characteristics of the labor market

3. Materials relating to the types of jobs performed in the local environment

G.4.1. Data Collection Instruments

NAME OF ORGANIZATION

DATE OF SURVEY

ADDRESS

ZIP CODE

INTERVIEWER

TELEPHONE

PERSON CONTACTED

SIC

JOB TITLE ACC. TO EMPLOYER	DESCRIPTION OF JOB DUTIES	D.O.T. CODE #	D.O.T. TITLE

WORK SCHEDULE

FULL-TIME - YR.ROUND

PART-TIME - YR.ROUND

FULL-TIME - SEASONAL

PART-TIME - SEASONAL

NO.IN POS.

SEASONAL CALENDAR ___ to ___ to ___

INTERVIEW WHEN

IS THIS AN ENTRY LEVEL JOB? YES NO

WHAT IS THE NEXT STEP? NONE

IS THIS A CAREER LEVEL JOB? YES NO

FUTURE POSS.

OWNER IF THIS BOX IS CHECKED, GO NO FURTHER.

EDUCATION
1. NONE
2. H.S.REQ.
3. 2 YRS.REQ.
4. 4 YRS.REQ.
5. 4 & GRAD.
6. BUSS.COLL.
7. TECH.SCH.

EXPERIENCE
1. NONE
2. 1 YR.
3. 2 YRS.
4. 3 YRS.
5. 4 YRS.
6. 5 or MORE
7. APPRENT.

LICENSURE
1. NONE
2. UNION CARD
3. CIVIL SERVICE
4. DRIVERS LIC.
5. OTHER

PHYSICAL REQ.
1. NONE
2. PHYS.REQ.
3. PHYS.COND.
4. DISABILITY

TYPE OF DISABILITY ALLOWED
MENTAL. able to follow directions and do routine jobs.

PHYSICAL DISABILITY
Loss of Limb(s)
arms / arm
legs / leg
blind / part.blind
hearing / part.hearing

AGE REQUIREMENT
FROM ___ to ___

SEX REQUIREMENT
MALE
FEMALE
EITHER

FROM WHERE DO YOU RECRUIT FOR THIS JOB?
HRD
UNION HIRING HALL
WORD OF MOUTH
PRIV.EMPL.AGENCY
PROMOT.FROM WITHIN
TRANSFER
ADVERTISING
OTHER
APPLICATION
ELECTION

G.4.2. Business Card

MILDRED SCHICK
HOSPITALITY MANAGEMENT

COLUMBIA JUNIOR COLLEGE
P.O. BOX 1849, COLUMBIA, CALIFORNIA 95310
TELEPHONE (209) 532-3141

G.4.3. List of Computer Table Headings and Column Designations

A. Tables Arranged by DOT Code and DOT Number

Table I. Job Characteristics by DOT Code and DOT Job Title

This information forms the basis for Tables numbered XXVIII in Part II. It summarizes the number in each job title, part time, full time and seasonal characteristics, licensure requirements, and education and experience levels required.

Table II. Entry Level Jobs by DOT Entry Code and DOT Job Title - also shows future placements and future possibilities for cooperative work experience.

This table serves as the basis for discussions pertaining to entry level opportunities in each curricular area in Part II. It also provides information on career advancement possibilities and also next rung on the career ladder. It identifies potential cooperative work experience stations.

Table III. Calendar of Seasonal Jobs by DOT Code and DOT Job Title Showing Source of Recruitment.

This table identifies seasonal jobs, avenue of recruitment and seasonal calendar. This table provided the data for the seasonal calendars which appear in each section of Part II of the detailed Labor Market Analysis.

B. Tables Arranged by HRD Class

Table IV. Summary of Jobs by HRD Class

These tables provide information to allow for sorting by HRD class and to develop relationships with the Standard Industrial Classification. These sorts allow for comparison with census data and with like industrial groups.

Table V. Summary of Entry Level Job Titles and DOT Codes by HRD Class

This table provides information which allows for clustering of job titles into HRD classes to compare with census information.

C. Tables Arranged by Employer Name within HRD Classes

Table VI. Job Titles by Employer by DOT Title and Code, by HRD Class and by Size of Organization.

These tables provide the data upon which Tables XXVI and XXVII on Pages 48 and 50 of Part II were developed.

Table VII. Job Titles of Entry Level Jobs by Employer by HRD Class.

This table is the same as Table V but sorted by employer name. This information will be useful for future placement services. It provides information for entry level jobs for curriculum analysis.

Table VIII. Entry Level Jobs which Lead to Career Level Jobs by Employer by DOT Title and Code with Future Possibility for Cooperative Work Experience Slots.

This table provides information on advancement opportunities by employer. It will be useful for future career selection and placement information.

Table XIX. Calendar of Seasonal Jobs by Employer by HRD Class Showing Source of Recruitment.

This information is similar to that on Table III; however, it gives names of employers who hire seasonal workers. This information will be helpful in providing placement services.

G.4.4. Dictionary of Occupational Titles

DICTIONARY OF OCCUPATIONAL TITLES[1]

Background

The development of the Dictionary of Occupational Titles began with the passage of the Wagner-Peyser Act in 1933 which created a need for a reliable source of occupational information for personnel of the newly formed U.S. Employment Service and affiliated State employment services. To provide a comprehensive cross section of information about occupations as they actually existed, job analysis techniques were developed, and a number of occupational research centers were established in various sections of the country.

Between 1934 and 1939, 54,000 analyses of jobs were prepared in thousands of establishments, providing the first extensive compilation of occupational information on the American economy. They form the basic data from which subsequent technological change and its effect on jobs can be identified and measured. They provided source material for preparation of a variety of publications, and made possible the publication of a volumne of brief descriptions of all jobs for which information was available--a dictionary of occupations.

The publication in 1939 of the Dictionary of Occupational Titles provided a useful tool for the understanding of job content and job relationships and for all future work in occupational research.

The information gathered for publication in the Dictionary served as the basis for a review of the occupational classification and code system of the U.S. Employment Service. This review resulted in a new occupational classification structure. As this structure reflected occupational relationships based on work performed and job content, it was useful in classifying employers' job orders and applicants seeking employment who had a history of work experience.

The Dictionary had become a standard source of occupational information in the broad area of manpower and related fields. An attempt to develop an improved classification system to meet various demands in these areas more effectively, and to reflect relationships among jobs not only in terms of the traditional work performed but also in terms of the requirements made on the workers, resulted in new occupational research techniques.

Arrangement of the Dictionary

This section provides an explanation of (1) the presentation and arrangement of job titles and definitions, (2) methods of locating a job definition and code, and (3) the various uses of the Dictionary.

1. Presentation and Arrangement of Job Titles and Definitions

The definitions contained in volumne I of the Dictionary are arranged in alphabetic order according to their job titles. There are 35,550 job titles, and, although not every one is followed by a

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[1] U.S. Department of Labor Manpower Administration, Dictionary of Occupational Titles - 1965, Volumnes I, II, and III

complete definition, all are ultimately described by references to complete definitions. Many jobs are known by more than one title, and these additional names are considered to be alternate titles. The Dictionary contains 13,809 such alternate titles. In addition, the duties of individual jobs may be similar or overlap so that one job may include a part or all of the duties of others. Titles and definitions in the Dictionary are so arranged as to avoid duplication and repetition to the maximum extent possible.

a. Job Definitions

The Dictionary of Occupational Titles (Third Edition) Volumne I contains names and definitions of the various occupations in the economy.

1) Titling

Jobs are arranged according to the alphabetic order of their titles. Other names by which the same jobs are known in various sections of the country are called alternate titles and are also included. Alternate titles are incorporated alphabetically with the other titles and refer the reader to the title under which the definition is printed. Job titles are letter alphabetized; i.e., the entire job title is considered as a single word for alphabetization purposes.

2) Content

Data contained in the definitions include information on WHAT gets done, HOW it gets done, and WHY it gets done.

EXAMPLE: CATALOGER (library) 100.388. catalog librarian; descriptive cataloger. Compiles information on library materials, such as books and periodicals, and prepares catalog cards to identify materials and to integrate information into library catalog: Verifies author, title, and classification number.....

WHAT

WHY

HOW

The definitions also provide, indicate, or imply other types of information:

(a) Functions performed by the worker. (Worker functions are designated relationships to Data, People, and Things which are used in the Dictionary to identify the levels at which the job requires the worker to function.)

EXAMPLE: PHYSICIST, THEORETICAL (profess. & kin.) 023.088. Interprets results of experiments in physics, formulates theories consistent with data obtained, and predicts results of experiments designed to detect and.....

SYNTHESIZING

(b) Significant aptitudes, interests, and temperaments required by the job. (Aptitudes are those specific capacities and activities required of a worker in order to perform a job adequately. Interests are those factors that indicate a positive preference for a type of work activity, and temperaments relate to certain types of occupational situations to which workers must adjust.)

EXAMPLE: EDITORIAL WRITER (print. & pub.) 132.088.

(aptitude) VERBAL ABILITY

(interest) PEOPLE AND THE COMMUNICATION OF IDEAS

Writes coments on topics of current interest to stimulate or mold public opinion in accordance with viewpoints and policies of publication.....

(temperaments)

INFLUENCING PEOPLE'S OPINIONS, ATTITUDES, OR JUDGMENTS ON IDEAS

INTERPRETING FEELINGS, IDEAS, AND FACTS IN TERMS OF PERSONAL VIEWPOINT

(c) Critical physical demands and working conditions. (Physical demands are specific physical aspects required in job performance, and working conditions are physical surroundings in which specific occupational activities occur.)

EXAMPLE:

HIGH CLIMBER (logging) 949.781. climber; high rigger; rigger; squirrel man; topper. Installs blocks (pulleys), cables, and other rigging tackle on tree to be used for yarding logs from forest: Climbs tree, using climbing spurs and safety rope.....

(working conditions) OUTSIDE, HAZARDS (physical demands) CLIMBING AND BALANCING

The complete job definitions, with information on the WHAT, HOW, and WHY of the job, as well as indications of the knowledges and abilities required, are designed to give a concise and concrete occupational picture which also will convey some indication of the level of complexity involved.

Volumne II of the Dictionary contains the index of the industry designations, their complete industry titles and definitions, and an alphabetic list of occupational titles occurring in each industry.

3) Industry Designation

There are 229 industries defined in the Dictionary. Each is identified by a designation which is usually an abbreviation of the name of the industry. Each job definition is assigned one or more of these designations, which immediately follow the job title, for the purpose of indicating the type of economic activity with which the job is associated. They also serve to differentiate among identical titles in different types of activities.

Several bases have been used for determining what the various industries will include: (1) The character of the services rendered, as in amusement and recreation services; (2) the products manufactured, as in the rubber tire and tube industry; (3) the primary processes employed, as in the nonferrous metal smelting and refining industry; (4) the raw materials used, as in the stonework industry.

A definition usually receives the designation of the industry in which the job is found. However, if the job is one of a group that occurs in several industries because the work activities involved are not peculiar to any single industry, it is given the designation of the particular type of activity.

A number of jobs occur in more than one industry but do not fall within a type-of-work designation. Such jobs bear the industry designations of the several industries in which they are found, unless they occur in a number of industries too large to be conveniently listed, in which case they are given the designation "any ind." (any industry).

In compiling the information of the Dictionary, not every job was observed in every industry in which it existed. For this reason, the assignment of an industry designation does not necessarily limit a job to that industry. These designations are merely indicative of the possible areas of activity in which the job may be found.

2. The Occupational Classification and Code

The occupations in the Dictionary have been incorporated into a classification structure in which the individual occupations are identified by 6-digit numbers. The structure consists of two arrangements of jobs--the Occupational Group Arrangement and the Worker Traits Arrangement. These provide (1) a method of grouping those having the same basic occupational or worker trait characteristics so that the user can discern various relationships among occupations, and (2) a standard approach to classifying the abilities, vocational experiences, and/or potentials of workers.

a. Occupational Group Arrangement

Throughout this arrangement, jobs are grouped according to a combination of work field, purpose, material, product, subject matter, service, genetic term, and/or industry, as reflected in the first three digits of the code. All occupations are grouped into nine broad categories, which, in turn, are divided into divisions and then groups.

The nine occupational categories of the occupational group arrangement are identified by the numbers 0-9, reflected in the first digit of the code number as follows:

0 Professional, technical, and managerial
1
2 Clerical and sales occupations
3 Service occupations
4 Farming, fishery, forestry, and related occupations
5 Processing occupations
6 Machine trades occupations
7 Bench work occupations
8 Structural work occupations
9 Miscellaneous occupations

These categories are divided into eighty-four 2-digit divisions, and the divisions, in turn, are subdivided into 603 distinctive 3-digit groups. Definitions of the categories, divisions, and groups are presented in that section of volumne II of the Dictionary entitled "Occupational Group Arrangement of Titles and Codes."

b. Worker Traits Arrangement

Throughout this arrangement, jobs are grouped according to some combination of required general educational development, specific vocational preparation, aptitudes, interests, temperaments, and physical demands. Each group contains (1) narrative information identifying traits and abilities required of the worker, and (2) a listing of occupations which require these factors in common.

There are 114 such worker trait groups, organized within the following broad areas of work:

Art
Business Relations
Clerical Work
Counseling, Guidance, and Social Work
Crafts
Education and Training
Elemental Work
Engineering
Entertainment
Farming, Fishing, and Forestry
Investigating, Inspecting, and Testing
Law and Law Enforcement
Machine Work
Managerial and Supervisory Work
Mathematics and Science
Medicine and Health
Merchandising
Music
Personal Service
Photography and Communications
Transportation
Writing

Each worker trait group is defined by presenting narrative information that describes the work performed, identifies significant worker requirements, suggests possible clues that may be useful in relating applicants for employment and the requirements, and gives a general picture of typical training and methods of entry pertinent to the jobs listed in the group.

3. Uses of the Dictionary

The Dictionary provides a reliable means of standardizing the terminology of occupations. This permits the State employment services to classify and code applicants' occupational qualifications and employers' job openings in the same terms, and to communicate this information in a commonly understood language among State and local offices. In the Armed Forces it is used in identifying and summarizing recruits' civilian work histories, in assessing personnel to military classifications and ratings which are related to their civilian skills or in line with their potential, and in defining and classifying military positions which are identical or similar to those found in civilian industry. It has been adapted, modified, and incorporated into military classification systems and numerous operating personnel manuals. The Dictionary is used in developing an orderly procedure for granting occupational deferments in the operation of a nationwide Selective Service System.

The U.S. Employment Service uses the Dictionary in its statistical reporting of information for economic analysis and manpower planning. Universities, independent research organizations, government, and various groups concerned with manpower planning and related activities use it as a basic tool in occupational research. Job inventories are conducted by identifying and counting job or workers and reporting the results in Dictionary terms; one means of measuring technological change is to repeat this procedure at different time periods and note the shifts among job methodologies; extrapolation of these trends permits forecasting and evaluating occupational supply and demand. Manpower action programs are based on the results. The Dictionary also provides a standard terminology and an occupational classification system for relating results of independent research projects to each other.

STANDARD INDUSTRIAL CLASSIFICATION MANUAL[2]

Purpose and Scope of the Classification

The Standard Industrial Classification was developed for use in the classification of establishments by type of activity in which they are engaged; for purposes of facilitating the collection, tabulation, presentation, and analysis of data relating to establishments; and for promoting uniformity and comparability in the presentation of statistical data collected by various agencies of the United States Government, State agencies, trade associations, and private research organizations. For purpose of this classification, an establishment is an economic unit, generally at a single physical location where business is conducted or where services or industrial operations are performed.

The Standard Industrial Classification for establishments differs from a classification for enterprises or companies. A Standard Enterprise Classification related to the Standard Industrial Classification has been developed for use in classifying enterprises. Other classifications have been developed for use in the classification of commodities or products and also for occupations.

The Standard Industrial Classification is intended to cover the entire field of economic activities: agriculture, forestry, fishing, hunting, and trapping; mining; construction; manufacturing; transportation, communication, electric, gas, and sanitary services; wholesale and retail trade; finance, insurance, and real estate; personal, business, repair, and other services; and public administration.

Principles of the Classification

In preparing the Classification, the Technical Committee on Industrial Classification was guided by the following general principles:

(1) The Classification should conform to the existing structure of American industry.
(2) Each establishment is to be classified according to its primary activity.
(3) To be recognized as an industry, the group of establishments constituting the proposed classification must be statistically significant in the number of persons employed, the volume of business done, and other measures of economic activity.

Structure of the Classification

The structure of the classification makes it possible to tabulate, analyze, and publish establishment data on a division, a two-digit, a three-digit, or a four-digit industry code basis, according to the level of industrial detail considered most appropriate.

Basis of Code Assignment

Each establishment is assigned an industry code on the basis of its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Ideally, the principal product or service should be determined by its relative share of "value added" at the establishment. In practice, however, it is rarely possible to obtain this measure for individual products or services; typically, it has been necessary to adopt some other criterion which may be expected to give approximately the same results in determining the primary activity of an establishment.

Use in Labor Market Survey

Each company visited was assigned a two-digit code rather than the more detailed three or four digit code possible within the classification. This broader two-digit code can be directly related to vocational programs as offered at the community college level. It is important however, that project coordinators seeking to implement the survey model described in this document familiarize themselves with the details of the Standard Industrial Classification System so that they can adapt the system to their own particular needs.

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[2] U.S. Executive Office of the President, Office of Management and Budget, Standard Industrial Classification Manual - 1972, prepared by the Statistical Policy Division.

Standard Industrial Classification Code

State of California
Employment Development Department (2-73)

STANDARD INDUSTRIAL CODE

Two-Digit Industrial Code List

AG., FORESTRY & FISHERIES

01 - Agricultural Production
07 - Ag. Services & Hunting & Trapping
08 - Forestry
09 - Fisheries

MINING

10 - Metal
11 - Anthracite
12 - Bituminous & Lignite
13 - Crude Petroleum & Natural Gas
14 - Mining & Quarrying Nonmetallic Minerals, Except Fuels

CONTRACT CONST.

15 - Bldg. - General Contractors
16 - Const. other than Bldg. - Gen. Contractors
17 - Const. - Special Trade Contractors

MANUFACTURING

19 - Ordnance & Accessories
20 - Food & Kindred Products
21 - Tobacco
22 - Textile Mill Products
23 - Apparel & Other Finished Products made from Fabrics - and Similar Materials

24 - Lumber & Wood Products, Except Furniture
25 - Furniture & Fixtures
26 - Paper & Allied Products
27 - Printing, Publishing & Allied Industries
28 - Chemicals & Allied Products
29 - Petroleum Refining & Related Products
30 - Rubber & Misc. Plastics Products
31 - Leather & Leather Products
32 - Stone, Clay & Glass Products
33 - Primary Metals Industries
34 - Fabricated Metal Products, Except Ordnance, Machinery & Trans. Equip.
35 - Machinery, Except Electrical
36 - Electrical Machinery, Equipment & Supplies
37 - Transportation Equipment
38 - Professional, Scientific & Controlling Instruments; Photographic & Optical Goods; Watches & Clocks
39 - Misc. Mgf. Industries

TRANSP., COMM., ELECTRIC, GAS & SANITARY SERVICES

40 - RR Transp.
41 - Local & Suburban Transit & Interurban Passenger Transp.
42 - Motor Freight Transp. & Warehousing
44 - Water Transportation
45 - Transportation by Air
46 - Pipeline Transp.
47 - Transp. Services
48 - Communication
49 - Electric, Gas & Sanitary Services

WHOLESALE AND RETAIL TRADE

50 - Wholesale
52 - Retail - Bldg. Materials, Hardware & Farm Equipment
53 - Retail - General Merchandise
54 - Retail - Food
55 - Auto Dealers & Gasonine Serv. Stations
56 - Retail - Apparel & Accessories
57 - Retail - Furniture, Home Furn. & Equipment
58 - Retail - Eating & Drinking Places
59 - Retail - Misc. Retail Stores

FINANCE, INSURANCE, & REAL ESTATE

60 - Banking
61 - Credit Agencies other than Banks
62 - Security & Commodity Brokers, Dealers, Exchanges & Services
63 - Insurance Carriers
64 - Insurance Agents, Brokers & Service
65 - Real Estate
66 - Combinations of Real Estate, Insurance, Loans, Law Offices
67 - Holding & Other Investment Companies

SERVICES

70 - Hotels, Rooming Houses, Camps, & Other Lodging Places
72 - Personal Services
73 - Misc. Business Services
75 - Auto. Repair, Auto Services & Garages
76 - Misc. Repair Services
78 - Motion Pictures
79 - Amusement & Recreation Services, Except Motion Pictures
80 - Medical & Other Health Services
81 - Legal Services
* 82 - Educational Services
84 - Museums, Art Galleries, Botanical & Zoological Gardens
86 - Nonprofit Membership Organizations
88 - Private Households
89 - Misc. Services

GOVERNMENT

91 - Federal
92 - State
93 - Local
94 - International

99 - Nonclassifiable Establishments

* Code Public Schools 92 or 93 as applicable.

G.4.6. List of Useful Data Available for All Counties

State of California - Employment Development Department information

1. Total Population of Planning Area with Annual Changes
   County Labor Market Survey - 1971-72
   (Northern California Employment Data and Research, June 1973)

2. Specialized Area Studies, such as the
   Tuolumne County Manpower Survey - October 1971
   prepared by the Rural Manpower Service Office

3. Monthly Labor Market Reports

4. Semi-Annual Review and Outlook for area

U.S. Department of Labor-Manpower Administration

1. Summary of Manpower Indicators for each County - Run date 11/02/72
   Lawrence Berkeley Lab

2. Journey to work by residents according to census data

U.S. Bureau of Census

1. County and City Data Book

Additional data can be secured by local Employment Development Department Managers through the Office of Northern California Employment Data and Research. Once the local office contact has been made, the staff of this office are of invaluable assistance.

G.4.7. Useful Manpower Projection Data

1. U.S. Department of Labor, Bureau of Labor Statistics, The U.S. Economy in 1980, a summary of Bureau of Labor Statistics Projection Bulletin # 1673.

2. State of California Employment Development Department

a. California Manpower, 1972-75

b. California Manpower Needs to 1975, October 1969

3. Various reports on selected occupational areas are also available notably in Comprehensive Health Planning.

G.4.8. Work Sheets Utilized in Developing Implications

ANALYSIS OF LABOR MARKET SURVEY FOR TUOLUMNE COUNTY

To the User: The purpose of the following question was to help instructors analyze the Labor Market Survey data and draw program implications. These questions were prepared in a workbook fashion and from the responses the narrative report was developed.

I. Description of the Labor Market

A. Scope of Labor Market

During the period of the Tuolumne County Labor Market survey, approximately 1082 job titles were identified by interviewers. These job titles fell into 49 classifications assigned by the Standard Industrial Classification Manual, to group like industries. An analysis of job titles by industry types reveals that the largest number of job titles are found in the following industry types:

Class	Title of Class	Number of Job Titles	Number of Jobs in Class

Summary information completed by Project Director

The largest number of jobs however, are found in the following job titles:

Job Title	DOT Classification	Number of Jobs in Title

Summary information completed by Project

B. Characteristics of Employers in Tuolumne County

This data from Table I

Summary information completed by Project Director

The Project Staff will develop Tables for each occupational area as follows:

Occupational Category:

FIRE

D.O.T. TITLE	6-DIGIT D.O.T. CODE	NUMBER IN POSITION	WORK SCHED.				EDUCATION							EXPERIENCE							LICENSURE					AGE		SEX		
			F.T. YEAR	P.T. YEAR	F.T. SEASON	P.T. SEASON	NONE	HIGH SCHOOL	2 YRS. COLL.	4 YRS. COLL.	4 + GRAD.	BUSS. COLL.	TECH. SCH.	NONE	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	APPRENTICE	NONE	UNION CARD	CIVIL SVCE.	DRIVER LIC.	OTHER	FROM	TO	MALE	FEMALE	EITHER

All job titles should appear in some program category which most nearly fits the college program offerings in vocational education. The Program Director was responsible to develop implications for those areas not taught by the college.

A number of xeroxed copies of these basic tables will be required to answer the questions which follow.

Instructions

C. Analysis of the Labor Market

Using prepared Tables select the in-service job titles which your program now serves. Cut and tape.

1. Relationship of current in-service training programs to the labor market

   a. Competence levels required for career advancement can be fully achieved by existing course work at the college in the following job titles

JOB TITLE		DOT CODE		# OF JOBS

Cut and tape, as above. Check the appropriate type of training.

   b. Other community based in-service courses outside college offerings are available to employees seeking career advancement

JOB TITLE	DOT CODE	COURSES OFFERED BY OTHER INSTITUTIONS	COMPANY OFFERED COURSES	CORRESPONDENCE COURSES	UNION OR PROFESSIONAL ORGANIZATION	OTHER (specify)

c. Job Titles requiring four year degree or professional degree or for which selection is made outside the labor market area.

JOB TITLE	DOT CODE			# OF JOBS

d. In order for opportunities for career advancement to be strengthened, the following additions or modifications of existing course work are required.

e. New course work to allow for career advancement is required as follows:

f. Career level positions in which licensure is required:

List.

JOB TITLE	DOT CODE	# OF POSITIONS

Instructions

List title and codes.
Complete information on table.

g. Career level positions in which licensure renewal carries mandated continuing education requirements.

JOB TITLE	DOT CODE	NAME OF LICENSE	# YEARS FOR RENEWAL	# MANDATED TRAINING HOURS	FREQUENCY	SOURCE OF TRAINING

h. Job titles for which advancement can be achieved through on-the-job training and formal training is not required.

JOB TITLE	DOT CODE	# OF JOBS

2. Entry level jobs

a. Relationship of current training to labor market

1) Entry level competence can be fully achieved with existing course work.

DOT CODE	JOB TITLE	TUOLUMNE	CALAVERAS	TOTAL

2) Entry level competence could be fully achieved with the following additions or modifications of existing course work, as follows:

DOT CODE	JOB TITLE	CONTENT AREA
235862	Telephone Answer Serv	one additional unit to Switchboard Operation course, Off. Occ. 131, training in notetaking of messages; refering these messages back to clients.

3) Entry competence would require new course work, as follows:

DOT CODE	JOB TITLE	CONTENT AREA
237368	Receptionist - Medical Office	New Course - Medical receptionist and transcription techniques

4) Entry level can be achieved through on-the-job training and formal training is not required.

DOT CODE	JOB TITLE	TUOLUMNE	CALAVERAS	TOTAL

b. Career advancement within occupational categories

1) have advancement possibilities

JOB TITLE	DOT CODE	NEXT STEP DOT CODE	NEXT STEP JOB TITLE
Librarian Helper	100168	100168	Librarian

2) are entry level only

JOB TITLE	DOT CODE

3) advancement requires leaving the area

JOB TITLE	DOT CODE	NEXT STEP DOT CODE	NEXT STEP JOB TITLE

c. Describe the possibilities for advancement as follows:

1) within local businesses and industries

2) within specialties by changing employers

3) advancement requires leaving the area

d. List job titles which have possibilities for placement in broader labor market.

e. Review current level of earnings for entry level jobs in categories listed below:

Job Title & DOT Code	Median Earnings Minimum Wage or Below	Median Earnings Minimum Wage or Within 10% Above	Median Earnings Minimum Wage Exceeding Above 10

f. Review of characteristics of entry level jobs.

1) Program needs met in existing offerings

DOT Code	Job Title	Requires Formal Training for Entry	Has Yr-Round Employment Possibility	Pays Median Salary of Min. Wage or Above	Has Local Career Possibility	Has Expanded Career Possibility

2) Entry level competence could be of existing course work, as following:

DOT Code	Job Title	Requires Formal Training for Entry	Has Yr-Round Employment Possibility	Pays Median Salary of Min. Wage or Above	Has Local Career Possibility	Has Expanded Career Possibility

3) Entry competence would require new courses

DOT Code	Job Title	Requires Formal Training for Entry	Has Yr-Round Employment Possibility	Pays Median Salary of Min. Wage or Above	Has Local Career Possibility	Has Expanded Career Possibility

3. Seasonal and Year-Round Jobs

a. The seasonal and year-round characteristics of the local labor market.

List.

1) Seasonal jobs by month of work

15-MONTH CALENDAR FOR SEASONAL JOBS

DOT CODE	DOT TITLE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.
182287	Constr. Inspector						X	-	-	-	-	-	-	X		

2) Comparison of entry jobs with career level jobs

JOB TITLE	DOT CODE	SEASONALITY NOT FOUND YEAR-ROUND ONLY	SAME DEGREE OF SEASONALITY	MORE SEASONAL	LESS SEASONAL

Instructions

Add career level jobs to entry level seasonal calendar, and compare.

3) Is the seasonal calendar the same as for entry level jobs? If different, how?

4) Implications of seasonal calendar for in-service training class offerings.

Instructions

Cut and tape titles.

Check appropriate column.

b. Opportunities for Career Advancement

1) The following job titles have career advancement possibilities.

JOB TITLE	DOT CODE	WITHIN LOCAL BUSINESS AND INDUSTRY	WITHIN SPECIALITY BY CHANGING EMPLOYERS	ADVANCEMENT REQUIRES LEAVING AREA

c. Program implications derived from information pertaining to established career level jobs.

d. Anticipated trends in State and National labor markets. (attachment)

D. Characteristics of the Tuolumne County Labor Market

The characteristics of the labor market will be described by two job classifications -- entry level jobs and established career level jobs.

The location, number, work calendar, and type of entry level jobs are of primary concern to the pre-service or pre-employment education programs of the College. It is from these programs that placements of entry level workers will occur. The scope and characteristics of the established career level positions are also important as they govern the in-service training programs to be taught by the College.

The information included in these sections was developed through the following analysis of data

1. Characteristics of the labor market for which certificate and/or degree programs are now offered by the college.

2. Characteristics of the labor market for which instructional programs do not exist.

   a. Job titles and occupational clusters with potential for future program development.

   b. Job titles and occupational clusters for which training programs are not now recommended.

UNIVERSITY OF CALIF.
LOS ANGELES
JUL 25 1975
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